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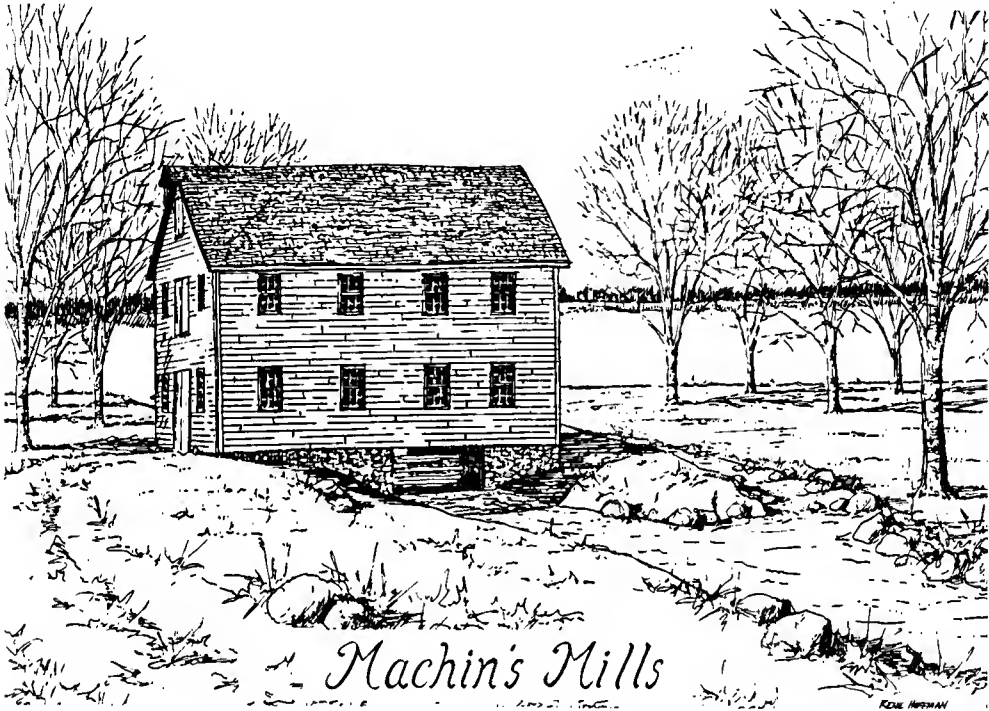
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J.C.Spilman, Editor

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ARTIST'S CONCEPTION of THOMAS MACHIN'S MILL at ORANGE LAKE VIEW LOOKING WEST

In this issue Gary A. Trudgen of Endwell, New York presents a summary of the documented information regarding the Early American New York Mint on the shores of Orange Lake which was built and operated by Thomas Machin. To this base Gary has added substantial new data regarding the individuals associated with Machin in his coinage enterprise, facts regarding the site based on examination of the extant foundations of the building, and a review of the various Early American coinage varieties believed to have been struck at Machin's Mills.

JCS

Sequential page 861

MACHIN'S MILLS

Gary A. Trudgen

INTRODUCTION

The Articles of Confederation, adopted on March 1, 1781, provided that each State had the right to coin its own money in accordance with the regulations imposed by the Continental Congress. When no material action was taken by Congress to alleviate the confused money conditions of that era, several states chose to produce their own copper coins.

In early spring of 1787, Captain Thomas Machin formed a partnership with the intent to coin money. They called their company a "manufactory of hardware", however today it is known as Machin's Mills.

The LOCATION and STRUCTURE

During the Revolutionary War, Captain Thomas Machin spent a good deal of time in the Hudson Highlands around Newburgh, New York. After the war ended in April 1783 he settled along the eastern shore of Great Pond in Ulster County, just a few miles west of Newburgh. The land that he settled was owned by his friend George Clinton, the Governor of New York State. Today Great Pond is known as Orange Lake and is now in Orange County. Over the years Orange Lake has had many names, and one of these was Machin's Pond. Its Indian name was Qussuk, meaning stony pond. Today Orange Lake covers about 400 acres and is quite deep in places.

When Machin settled there, along with another family named Crowell, he named the area New Grange. Today this area is part of the Town of Newburgh and is no longer known as New Grange.

Machin cut timber from the area and built a dwelling. He and his wife Susan moved into their new home near the end of May 1783. In 1784 Machin opened a new outlet for Great Pond by digging a canal at the point where water overflowed during times of high water. The natural outlet was further west at a place called Pine Point. The water provided by the canal flowed into Chambers Creek, now known as Quassaic Creek.

Machin then built a grist and saw mill. As was often the practice, apparently the grist and saw mill were housed in the same structure. The mill was built at the end of the canal where it empties into Chambers Creek. This was approximately 700 feet from the pond. Today it is around 400 feet from the lake because Orange Lake has grown larger over the centuries. See map on page 864.

A typical mill building of that day had a single-gabled roof and several double-hung windows for light and ventilation. The ridge of the roof extended out in front of the building so that a hoist could be attached. Also, the front of the building had large doors that opened on each floor so that materials could be hoisted in.

Today the Machin's Mills site remains relatively undisturbed. A portion of the mill's stone foundation still remains. From an inspection of the site, the following observations can be made. The mill was constructed so that it spanned lengthwise across the canal. With this configuration a paddle water wheel would have been mounted within the canal directly beneath the building to provide power to machinery within the building. This type of water wheel was in very common usage during this period and its typical dimensions were 6 feet in length and 3 feet high. From current observations it appears that the canal was dug to accommodate a wheel of that size. Machin's son described the structure as being constructed from wood and measuring 30 feet wide by 40 feet long and two stories high.

Three years later in 1787, this same mill was converted into a mint house when Machin formed his company for the manufacturing of hardware. The term "hardware" no doubt refers to copper coin. When imitation British halfpence were shipped from Birmingham, England to America, they were imported in casks under the name hardware or wrought copper.

MACHIN'S COMPANY

On March 3, 1787 Thomas Machin filed a petition with the New York State Legislature requesting a grant for permission to coin money for the state. He likely had high confidence that he would be given a grant because he was very good friends with the Governor of New York State, George Clinton.

On April 18, 1787 Machin formed a company so that he could execute his desire to coin money. He took on five partners; Samuel Atlee, James F. Atlee, David Brooks, James Giles, and James Grier. Machin's partners all claimed residence in New York City. The articles of agreement between Machin and his partners is published in Crosby's The Early Coins of America.

In summary the agreement called for: (1) Each partner was to contribute 50 pounds of current New York money towards a joint stock (capital) of 300 pounds by June 1, 1787. (2) The agreement was to be in effect for 7 years from the date of the agreement. (3) Samuel Atlee and James F. Atlee possessed certain implements needed by the company which they would provide without charge. These implements no doubt included the necessary tools and machinery required for making the coin dies, planchets, and the minting of the coins. (4) Thomas Machin would allow the use of his mills for conducting the business. (5) David Brooks, James Giles, and James Grier were to contribute 10 pounds each toward completing

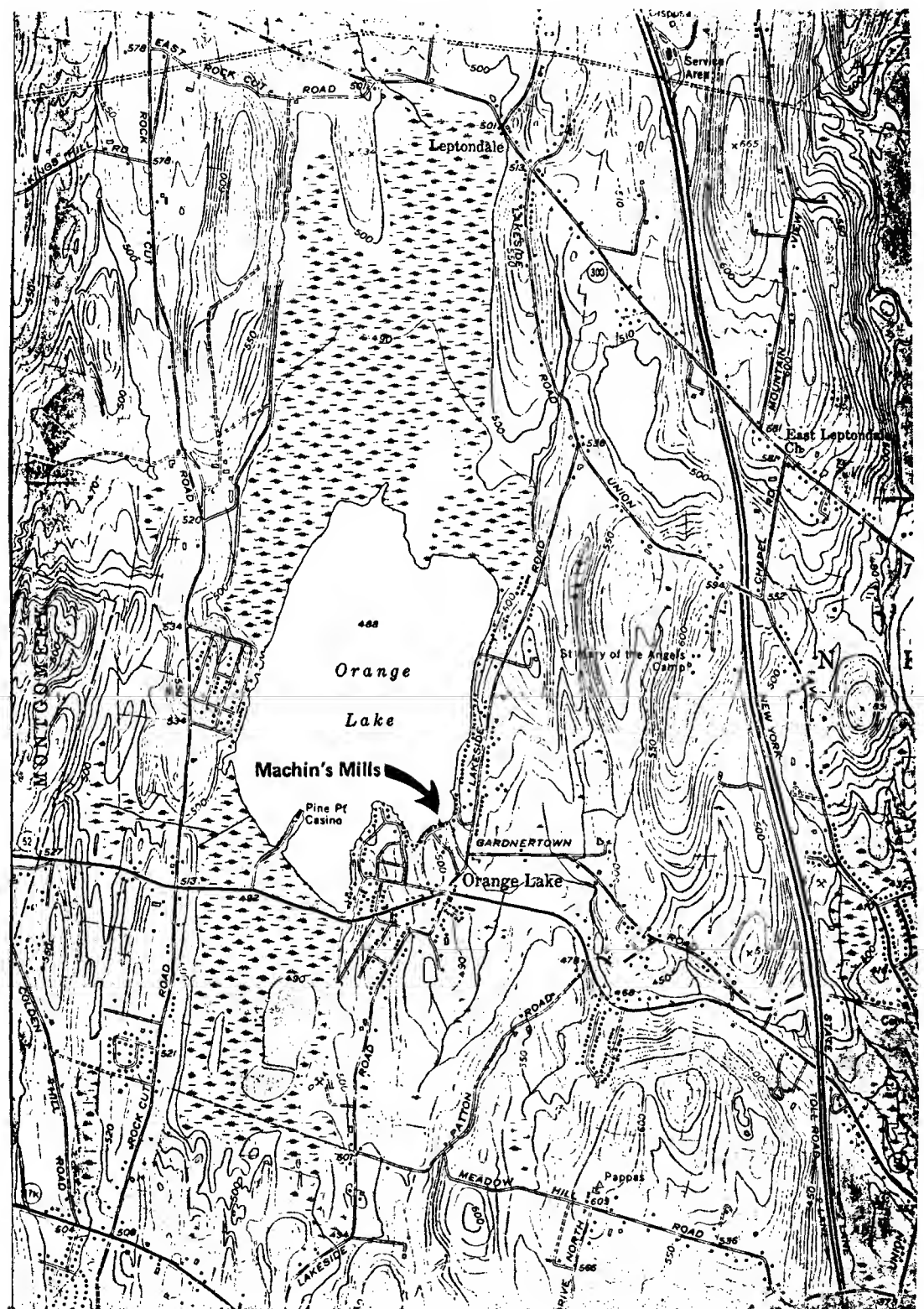


Figure 1

MAP of ORANGE LAKE -- FIVE MILES NORTHWEST of NEWBURGH, N.Y.
SHOWING APPROXIMATE LOCATION of MINT SITE

the works for carrying on their business. This is in reference to converting Machin's mill into a coining facility and probably the building of a small furnace to anneal the copper and temper the coinage dies. (6) James Giles was to be the cashier and bookkeeper. (7) James F. Atlee and Thomas Machin were to equally manage that part of the business which concerned the manufactory of hardware (minting of coins). (8) Samuel Atlee, David Brooks, and James Grier were to handle all other aspects of the business. (9) The business accounts were to be settled on February 1, June 1 & October 1 of each year. (10) If one of the partners died, his survivors would receive his share of joint stock. (11) If a partner wished to quit, he had to give six months notice in writing and pay the others a total of 100 pounds. (12) All partners were to have free access to all facilities, books, goods, merchandise, and house of James Giles. (13) Any differences of opinion or questions raised would be settled by a majority of the copartners. (14) No partner would charge for his labor in carrying out the business and all business costs would be borne equally between them. (15) If any one of the partners obtained the right to coin money, they would all share in the profits or losses of that grant. (16) If any partner did not abide by the preceeding agreement he could be penalized 500 pounds.

MACHIN'S PARTNERS

Two of Machin's partners, the Atlees, were involved with the New Jersey coining operation at Rahway before they joined with Machin. They had the experience, expertise, and equipment necessary to get Machin's company operational.

The other three partners probably had little knowledge of the coining business, although one of them, David Brooks, was involved with monetary legislation for New York State. These three partners were all ex-Revolutionary War officers who Machin probably knew from the war. Two of these officers, David Brooks and James Giles were physically located in the same camp, Newburgh, N.Y., as Machin during the final years of the war.

Biographical sketches of each of Machin's partners follows. In the genealogical search of the ex-officers, there was no direct reference found that linked them to Machin's coining operation. However, from circumstantial information there is a high degree of confidence that they were indeed the persons who formed the partnership with Machin.

Also, not a lot has been found concerning James and Samuel Atlee outside of their participation in the state coining activities during the latter half of the 1780's. Their lineage probably is from the Atlee family which settled in the Philadelphia area in the early eighteenth century. They may also have been closely related because during this period they were involved in the same coining ventures and lived in the same locations. They both were living in Vermont in 1790 but neither of them are listed in the Vermont 1790 or 1800 census.

JAMES F. ATLEE

Presently it is unknown as to when and where he was born. Also, no record can be found of him participating in the Revolutionary War.

Before he became connected with the state coinages he must have been involved in some type of metalworking in order to have developed the expertise required to engrave coinage dies.

In early 1786, while living in New York City, he engraved the dies for the Non Vi Virtute Vici coppers. Later that year he made a few dies for counterfeit bust right 1786 Connecticut coppers.

In November 1786 he went to work for the legal Rahway, New Jersey mint as a die-sinker. While at Rahway he made dies for New Jersey coppers dated 1786 and 1787. He also continued to make dies for counterfeit bust right Connecticut coppers. In addition, while at Rahway, he made some pattern dies for proposed coinages. They were:

- (1) The 1787 IMMUNIS COLUMBIA die for Matthias Ogden in his bid to obtain a grant for federal coinage.
- (2) The dies for the 1787 GEORGE CLINTON and LIBER NATUS LIBERTATEM DEFENDO issues for Thomas Machin in his bid to obtain a New York coinage grant.

In June 1787 he moved to Newburgh, New York and became a business partner in the coining company formed by Thomas Machin. While at Machin's Mills he engraved dies for:

- (1) Vermont coppers struck at Rupert and Machin's Mills.
- (2) Imitation British halfpence
- (3) Counterfeit Connecticut coppers dated 1787 and 1788
- (4) Counterfeit New Jersey coppers dated 1787

When the Machin's Mills operation closed in 1790, he moved to Vergennes, Vermont and became a deputy sheriff.

SAMUEL ATLEE

As is the case with James, it is also unknown when and where Samuel was born. He also appears to have no Revolutionary War record.

In Frank's 1786 Directory of New York City, Samuel Atlee is listed in the section entitled General Society of Merchants and Tradesmen. He was a porter brew master and evidently had a brewery along the East River. Porter is a weak stout that is rich in saccharine matter and contains about 4% alcohol.

He was somehow involved in the Rahway, New Jersey mint operation because when it closed in June 1787 he brought a lawsuit against the operators, Goadsby and Cox, in an effort to recover money due for goods delivered or for services rendered.

In April 1787 he joined with Thomas Machin as a business partner. When Machin's Mills closed he moved to New Haven, Vermont, just a few miles outside of Vergennes where James was employed as a deputy sheriff. Later in the early 1790's he moved to Fair Haven, Vermont, about 45 miles south of Vergennes.

DAVID BROOKS

He was born in 1756. In the summer of 1776 he entered the Revolutionary War as a Lieutenant in Colonel John Shee's Third Pennsylvania Continental Infantry. Shortly thereafter he was taken prisoner when the British captured Fort Washington on November 16, 1776. Fort Washington was located on the east bank of the Hudson River near the northern end of Manhattan Island. He was held in New York City prisons until he was exchanged on May 8, 1778. He was then appointed Regimental Quartermaster with the Third Pennsylvania Continental Infantry under Colonel Thomas Craig. Later in 1780 he was appointed Assistant Clothier General for the New York troops and was stationed in Newburgh, New York. He probably became acquainted with Captain Thomas Machin at this time. He eventually rose to the rank of Colonel before the Army was disbanded on November 3, 1783 after the war ended.

He settled in Dutchess County, New York after he was discharged from the Army. The 1790 census shows him living in the Dutchess County town of Rhinebeck. After settling in New York State he became a member of the New York Assembly for six years. While a member of the Assembly and very much involved in coinage legislation he joined Machin's company on April 18, 1787. The assembly was meeting in New York City at the exchange on Broad Street at this time. This explains Brook's claim of New York City residence in the agreements drawn up between Machin and his partners.

In 1797 he was appointed a commissioner to make a treaty with the Seneca Indians. Afterwards he was Chief-Justice of Dutchess County for 16 years. He died on August 30, 1838 at which time he was an Officer of Customs.

JAMES GILES

He was born on March 8, 1760. He entered the Revolutionary War in 1778 as a Commissary of Military Stores to the Artillery. On July 21, 1779 he was appointed a Second Lieutenant in Colonel John Lamb's Second New York Regiment of Continental Artillery where he served under Captain George Fleming. This is the same artillery regiment in which Captain Thomas Machin served. Therefore, they probably became acquainted at this time. On August 21, 1782 he was appointed Adjutant in the Second Regiment of Continental Artillery.

After the war he married Hannah Bloomfield, daughter of Doctor Moses Bloomfield, on May 23, 1784. They had six children. He became an attorney-at-law in New York City. On April 18, 1787 he became a partner with Thomas Machin at which time he was living at Maiden Lane in New York City.

In mid-1789 he moved to New Jersey where he eventually became a Brigadier General in the state militia. Also, for a period of time he was the Clerk of Cumberland County, New Jersey. He died in August 1825.

JAMES GRIER

He entered the Revolutionary War on June 25, 1775 as a First Lieutenant in Colonel William Thompson's Battalion of Pennsylvania Riflemen. He was promoted to Captain on March 7, 1776 in the First Regiment Pennsylvania Continental Infantry, formally Thompson's Battalion of Pennsylvania Riflemen, under Colonel Edward Hand. He was wounded at the battle of Brandywine on September 11, 1777. Shortly thereafter he was promoted to Major in the Tenth Regiment Pennsylvania Continental Infantry under Colonel Richard Humpton on October 23, 1777. Upon the incorporation and reduction of the Pennsylvania line he twice transferred -- first to the Sixth Regiment on January 17, 1781, and then to the Third Regiment on January 1, 1783. He was appointed to Brevet Lieutenant Colonel on September 30, 1783 shortly before he was honorably discharged from the Army on November 3, 1783 when the Army was disbanded.

He claimed residence in New York City when he joined into partnership with Thomas Machin on April 18, 1787. He also joined with the New York Society of the Cincinnati in 1787 whereas he was formally associated with the Pennsylvania chapter. In the 1790 census he is listed as living in New Windsor, New York, just a couple of miles southeast of Machin's Mills. He died on May 9, 1803.

The MERGER

Machin's new company joined with an existing coining firm from Rupert, Vermont on June 7, 1787. This firm had been in operation for almost two years under a grant issued by Vermont and had just recently obtained an eight year extension to the original grant which was to have terminated on July 1, 1787. This Vermont firm was headed by Reuben Harmon from Bennington County. His partners were William Coley, also from Bennington County, Elias Jackson from Litchfield County, Connecticut, and Daniel Van Voorhis, a goldsmith from New York City.

The articles of agreement between Machin's firm and Harmon's firm is also published in Crosby's The Early Coins of America. The agreement is very extensive, which suggests that the merged firms expected to do a large business in coining coppers. In summary the agreement stated that: (1) Reuben Harmon had been granted the privilege to coin copper from the Vermont Legislature. (2) Reuben Harmon and his partners agree to take Thomas Machin and his partners into full partnership to share in the benefits, privileges, and advantages of coinage for the State of Vermont. (3) They agreed that they would conduct their business in the states of Vermont, New York, Connecticut, or elsewhere if they could benefit by it. (4) The agreement was for a period of eight years beginning July 1, 1787, the same period of the Vermont coinage grant. (5) Machin and his partners were to furnish their original joint stock of 300 pounds of current New York money by July 1, 1787. They were also to contribute another 200 pounds by November 1, 1787 towards the joint stock. This 200 pounds along with another 400 pounds to be paid within two years from the agreement date was considered ample compensation by Harmon and his partners for admitting Machin's firm into partnership. (6) Each partner was to share one-tenth in the profits and losses of the operation. (7) Machin and his partners were to complete the conversion of Machin's mill into a coining facility by July 1, 1787 at their own cost. (8) Harmon and his partners were to complete at their own cost by July 1, 1787 the works they were then erecting at Rupert. (9) After July 1, 1787 any repairs or alterations would be assumed by all of the partners. (10) James Giles was to keep the books for the copartnership. (11) Reuben Harmon and William Coley were to equally manage and perform the coinage of money at Rupert. (12) Thomas Machin and James F. Atlee were to equally manage and perform the coinage of money and manufacturing of hardware at Machin's Mills. Perhaps the reference to manufacturing of hardware in this context refers to the production of coinage dies. (13) James Grier was to be the cashier of the money coined at Rupert. (14) Daniel Van Voorhis was to be the cashier of the money coined at Machin's Mills. (15) James Grier and Elias Jackson were to conduct the general management at both locations. (16) David Brooks and Samuel Atlee were to handle all other joint business. (17) James Giles was to keep a "Book of Resolutions". It was to contain a list of regulations that governed the copartnership. The regulations were to be determined by a majority of the copartners. (18) On February 1, June 1, and October 1 of each year they would

balance their books and address other matters of concern. They would each also receive their share of the profits. They would normally meet in Rhinebeck, New York unless another location was chosen by a majority. The town of Rhinebeck was the residence of Machin's partner David Brooks. They probably met at his home. (19) If a partner could not attend the preceding meeting, he could appoint another partner to represent him. (20) If a partner died, his survivors would receive his share of the joint stock. (21) If a partner wished to quit, he had to give six months notice in writing. (22) All copartners were to have free access to all facilities, books, goods, and merchandise. (23) If any controversy or difference of opinion were to arise concerning the copartnership it was to be resolved by a majority of the copartners or by no more than three indifferent persons. (24) The copartners would not charge for their labors in conducting the business. If the business required them to be away from home, then they would be paid for their expenses required to transact the business. (25) If any copartner obtained a grant for the coinage of money from Congress, state legislature, or persons who have already been granted that privilege, then the profits and losses from that grant were to be equally shared between them. (26) If any partner did not abide by the preceding agreement he could be penalized 1000 pounds.

HISTORY of the OPERATION

A chronological chart illustrating the significant events of the coining operations at Machin's Mills is presented in Figure 2. Since very little extant documentation remains concerning the operations at Machin's Mills, the information presented, in most cases, is based upon circumstantial evidence from the study of the coins themselves. Thus, only generalized time estimates can be made.

The left side of the chart illustrates the types of coins produced along with estimates of the period over which each particular type of coin was struck. Specific events are shown along the right side of the chart.

As has already been noted, Thomas Machin filed a petition with the New York State Legislature requesting a grant to coin copper for the state. His petition was read on March 3, 1787 and then referred to a committee consisting of Mr. Brooks (Machin's future partner), Mr. Duboy, Mr. Doughty, Mr. E. Clark, and Mr. Taylor. On the same day, Mr. Brooks who was on a committee to write a bill to regulate the copper coins then circulating in the state, presented a report by the committee in which they ascertained the value of these pieces. At that time the committee was at a loss as to how to regulate these coppers. On March 15, 1787 another committee was appointed to prepare a bill to establish a copper coinage in the state and to regulate the value of the copper coins then in circulation. This committee consisted of David Brooks, Alexander Hamilton, and John Lansing. On April 18, 1787 Machin formed his company to coin coppers. Two days later a bill was passed by the state to regulate the circulation of copper coins. This bill

MACHIN'S MILLS CHRONOLOGY

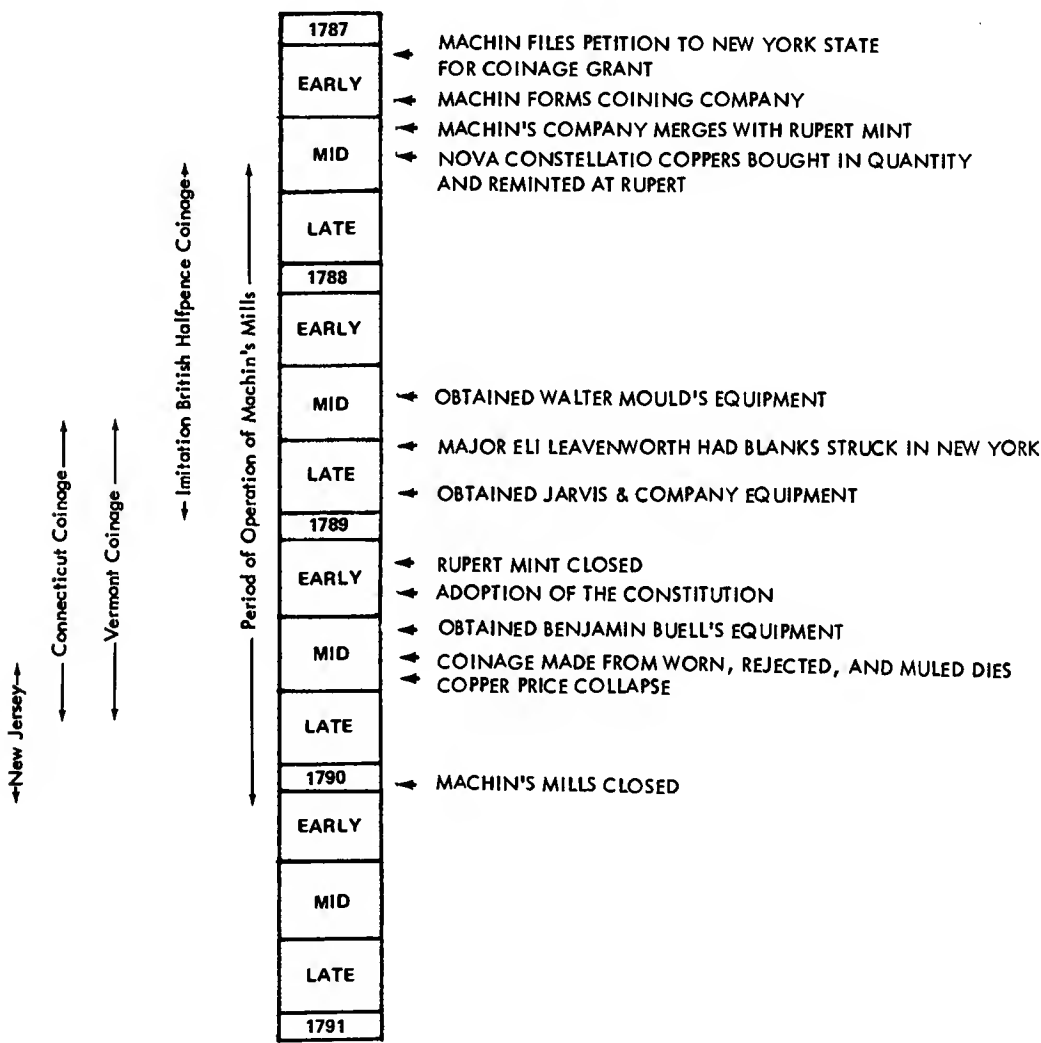


Figure 2

was the consequence of the efforts of the March 15 committee. The bill reduced the value of lawful coppers, defined as 48 coins of pure copper per pound, by 30 percent (20 coppers per shilling instead of 14) and provided for the seizure and penalty for passing unlawful coppers. Sometime between March 15 and April 7 the intent to establish a copper coinage in the state was abandoned. This left Machin and his newly formed company little hope of obtaining a grant from New York State. However there was still the possibility of obtaining a grant from Congress, another state, or to join with persons who had already obtained a grant.

Wasting little time, on June 7, 1787 Machin and his partners joined with Ruben Harmon and his partners. Harmon had a mint at Rupert, Vermont which he had been operating for almost two years under a grant from Vermont. On October 24, 1786 Harmon had negotiated a new contract which extended his coinage rights for eight more years, starting July 1, 1787. It is thought that Harmon joined with Machin because James F. Atlee, Machin's partner and experienced die-sinker, could provide a ready supply of much needed dies for the extended Vermont coinage grant. Under the terms of the agreement between Machin and Harmon, each partner was to have an equal share in the profits. This, of course, split the profits 60-40 in favor of Machin's Mills.

Under the terms of the agreement with Harmon, Machin was to have his mint operational by July 1, 1787. The equipment required for coining was to be supplied by James and Samuel Atlee. The equipment used in the coinage operation is well described by Machin's son, Thomas N. Machin, through Doctor F. B. Hough of Albany, N.Y. (Appendix I). He states that the copper required for the coins was obtained by melting up brass cannon and separating out the zinc. A large furnace would have been required to do this. The most common furnace of that day which could have been used would have been built from field stone measuring 20 feet on a side and up to 30 feet high. There are no remains of such a furnace near the site of the coinage mill. Either the furnace was removed or, as is most probable, Machin contracted a nearby furnace to melt the cannon for him. The copper was moulded into ingots and then rolled into flat sheets. The sheets of copper were of the desired coin thickness and were from one to two feet wide. The blanks or planchets were then cut from this sheet of copper by use of a screw press. The press was adjusted so that a half revolution of the lever would press out a blank. The blanks were then put in a cylinder with sand, saw dust, and water and left to revolve through the night. This would smooth the edges of the blanks. They were then struck into coins using a type of screw press that was in common usage during that period. The coining press is described as consisting of an iron frame with a screw that worked through it. The screw had large square threads with an iron bar about ten feet long placed through the top of it. On each end of the bar were lead weights of about 500 pounds. Ropes were attached to each end of the bar. To strike a coin two men would swing the lever bar about half way around by pulling on the ropes at one end. Two other men on the opposite end of the bar would then pull the bar back. A fifth man would lay the blanks on the die with

his fingers and then remove the coin after it was struck. This fifth man sat in a pit so that the lever bar would not strike his head. It is reported that about sixty coins could be struck in a minute. This coinage rate is probably the maximum obtainable over short periods of time.

Shortly after Machin and Harmon joined in partnership they purchased large quantities of Nova Constellatio coppers at discount for use at the Rupert mint. These coppers were being driven out of circulation in New York State by the previously mentioned coinage act because they were not of the proper weight. However, the Nova Constellatio coppers were usually heavier than the required weight of the Vermont coppers (111 grains). Thus, they could be directly fed into the Rupert coining press and restruck with Vermont dies.

After Machin's merger with Harmon, James Atlee began making Vermont coinage dies for the Rupert mint. As demonstrated by Eric Newman, Atlee used punches they were originally intended for imitation British halfpence in order to expedite the production of Vermont dies. The obverse punch was that of King George III, while the reverse punch was that of Britannia with a British cross in the shield.

By this time Machin's Mills would have been fully operational but had nothing to legally coin. Thus, they began their unauthorized coinage of imitation British halfpence. They evidently continued this coinage up through the time when they began to coin some Vermont coppers. This supposition is supported by the fact that the first Vermont copper coins thought to have been produced at Machin's Mills is the Vermont Britannia (Bressett 17-V). The reverse of this copper used a very worn reverse die (Vlack 87C) from the imitation British halfpence series. This die came later in the imitation British halfpence series and had already been combined with five George III obverse dies before being used to strike the Vermont Britannia.

In July 1788, Machin's Mills obtained at least some of the New Jersey coinage equipment of Walter Mould after Mould fled to Ohio to avoid debtors prison. Some of Mould's letter punches and his Immune Columbia die were later used for some of the Machin's Mills coinage. Mould had legally coined New Jersey coppers and had also counterfeited the laughing head varieties of Connecticut coppers at his Morristown, New Jersey mint before being forced to flee because of debts owed to Matthias Odgen.

Once again, when the James Jarvis and Company mint closed in September 1788, Machin's Mills obtained their remaining equipment. This included the presses, the draped bust hub and its corresponding reverse, and several completed dies and punches. Jarvis' mint was located in New Haven, Connecticut where he coined Connecticut and Fugio coppers. He was forced to close down when federal authorities became aware that he had used federal copper to coin Connecticut coppers. He was under contract to coin the federal copper into Fugio Cents for the Continental Congress. Jarvis fled to Europe to avoid prosecution.

The coinage of Vermont coppers at Machin's Mills probably began around the middle of 1788. At about the same time, they also began to counterfeit Connecticut coppers. There are several varieties of Connecticut coppers which are punch linked to the Vermont issues made at Machin's Mills.

In the fall of 1788, a committee appointed to investigate the Connecticut coinage at New Haven reported that Major Eli Leavenworth cut planchets (in New Haven) and had them stamped in New York with various impressions. Some of these planchets were struck with impressions similar to the Connecticut coinage produced at New Haven. In all likelihood, these planchets were struck at Machin's Mills. Thus, this report provides contemporary evidence that Machin's Mills was coining Connecticut coppers in late 1788.

Benjamin Buell, a son of Connecticut die-sinker Abel Buell, struck Connecticut coppers from around April to June 1789. When he was forced to stop his activities by a show-cause order issued by the State of Connecticut, Machin's Mills obtained some of his equipment. This was evidenced when Machin's Mills used Benjamin Buell's hubs and dies on some 1788 dated Connecticut coppers that they issued.

The New Jersey coppers that were manufactured at Machin's Mills were struck from dies that were made with Jarvis and Company letter punches. Thus, these coppers had to have been struck at sometime after the time when Machin's Mills obtained the Jarvis equipment.

The demise of Machin's Mills was twofold. First came the adoption of the constitution and formation of the Federal Government on March 4, 1789. The constitution prohibited the states from coining their own money (Article I, Section 10). Next came the collapse of the copper price in July of 1789. Copper coins fell sharply in value and in most cases made coinage of copper unprofitable.

Nevertheless, even with these adverse events, Machin's Mills probably continued a limited coinage up until early 1790. The exact date when Machin's Mills ceased operations is not known, thus it can only be estimated as to when they minted their final coin. The final coinage, in all likelihood consisted of some miscellaneous coppers made from worn, rejected, and muled dies and the New Jersey coppers. Some of the dies used were those that they had obtained earlier from the other mints that had already ceased operation. Thus ended the coinage operations at Machin's Mills, an Early American Mint which operated for several years after their counterparts had shut down.

No doubt Machin and his partners were greatly disappointed with the outcome of their business venture. Their high hopes in the beginning for obtaining a coinage grant from Congress or any state legislature was never realized. Instead, their business became a clandestine operation in which they coined several types of coppers without proper authorization. After Machin's Mills had closed, James

Atlee wrote to Thomas Machin in October 1790 and expressed a wish that the concern might arrive at a settlement on equitable terms and compromise their matters without a tedious and expensive lawsuit.

It has been recorded that the coining operations at Machin's Mills was looked upon with suspicion by the local residents. This attitude toward Machin's Mills was no doubt deserved because the workmen at the mint sometimes wore masks, worked at night, and circulated stories about the devil working for them. These actions were probably used to keep the curious away.

After Machin's Mills closed the coining machinery was taken to New York City and in January 1791 Thomas Machin moved from the area to Schoharie County near Albany, New York. Afterwards, the mint house was converted back into a grist mill and operated by a Mr. Burr.

It is reported by Charles Bushnell in Crosby's Early Coins of America that the coining press used at Machin's Mills was carried for several years as part ballast on the sloop Newburgh operated by Captain Issac Belknap. Captain Belknap ran a freight company out of Newburgh, New York at this time, but no record can be found of him owning a sloop titled Newburgh. However, he did own a sloop called the New Bern. Perhaps Bushnell confused the name New Bern with Newburgh.

When Jephtha Simms wrote his book entitled History of Schoharie County, in 1844, he had access to Thomas Machin's personal papers. Most of the papers were concerned with the Revolutionary War effort, but there were some papers dealing with the coinage operation at Machin's Mills. From these papers Simms concluded that in the year 1789 that about 1000 pounds of copper was coined. He also concluded that little was done before that year. Since these papers cannot be found today we do not know how Simms arrived at his conclusions. However, from what is known today of the operation at Machin's Mills, it is likely that they coined more copper during the years 1787 and 1788 than they did in 1789. Also, records of the coining activities at Machin's Mills should have been kept by James Giles, since he kept the books for the business. Therefore, the papers that Simms used to draw his conclusions were probably not the official records of the business. There is also a possibility that accurate records of their coinage were intentionally not kept because of the clandestine nature of the operation.

Finally, it is mentioned in both Appendices that there was a little silver coined at Machin's Mills. This information adds to the mystique because there is presently no knowledge as to what this coinage was. Bob Vlack speculates that this silver coinage may be the following two possibilities: (1) Counterfeit Spanish-Mexican pillar dollars, or (2) Counterfeit 1652 Massachusetts Pine Tree Shillings. The pillar dollar is the less likely candidate because they were made from a base metal and Machin normally used good metal. The pine tree shilling is the more likely candidate. There are two known specimens of an unattributed variety which are struck over 1781 Mexican reals, which places these counterfeits within the proper time frame.

THE PRODUCTS

New York State Patterns

When Thomas Machin petitioned New York State for a grant to coin copper, he contacted James Atlee to make dies for his proposed coinage. Atlee was no doubt still employed by the Rahway, New Jersey mint at this time. He made two obverse and two reverse dies which were combined to strike three varieties. These are;

- (1) 1787 George Clinton with New York Arms reverse.
- (2) 1787 Liber Natus Libertatem Defendo (Indian) with New York Arms reverse.
- (3) 1787 Liber Natus Libertatem Defendo (Indian) with Eagle on Globe reverse.

Based upon their scarcity today, a limited quantity of these patterns were struck, probably so that Machin could present them to the New York Legislature as samples of his proposed coinage. The extant patterns are of a legal weight, 46 per pound. This is also the weight of genuine New Jersey coppers. Thus we may hypothesize that these patterns were struck for Machin at the Rahway mint by James Atlee. We can further support this assumption by the fact that Machin's Mills was not operational until around the first of July 1787 and Machin would have wanted some samples around the time that he submitted his petition on March 3, 1787. This is not to say that the pattern dies were not later used at Machin's Mills. In fact there exists a muling which combines the pattern obverse die Liber Natus Libertatem Defendo with the obverse die of an imitation British halfpence (Vlack 9-87NY). This coin was, no doubt, struck at Machin's Mills.

Imitation British Halfpence

When Machin's Mills became operational around the first of July 1787, they had not obtained the grant to legally manufacture coppers for the State of New York. This left the newly formed company with a large facility with no product except dies for the Rupert mint in Vermont. The decision was made to begin unauthorized production of copper coins in order to obtain a return on their investment.

At that time a large number of imitation British halfpence were circulating in New York State. These were known as Birmingham coppers because they were made and imported from Birmingham, England. These coppers were lightweight, made from inferior copper, and badly executed.

It was thus a logical decision for the Machin's Mills people to begin producing their version of imitation British halfpence. It would offer minimum risk of detection because their product would blend in with the already circulating Birmingham coppers. Thus James Atlee, who in the past made dies for counterfeit Connecticut coppers, began making dies for counterfeit British halfpence. Initially he antedated the dies to conform with the dates of genuine British halfpence. Later he felt this unnecessary and dated his dies with current dates. The dies were



Machin's New York Pattern Coinage

Photo Credit: Dave Bowers



Typical Imitation British Halfpence

Photo Credit: Robert A. Vlack



Vermont Ryder-14 Struck Over NOVA

Vermont Ryder-25 Struck Over Irish Halfpence

Photo: Bowers

Photo: Bowers

Figure 3

TYPICAL "HARDWARE" PRODUCTS of THOMAS MACHIN and ASSOCIATES

poorly prepared, so that the new coppers struck from them would appear to have been already in circulation. The planchets used for striking were lightweight (111 grains average) and usually of poor quality.

The machin's Mills imitation British halfpence can be recognized by the single outline in the crosses of Britannia's shield and by James Atlee's punches and style. This series ranks in importance with the other state coinages of that era, but has been somewhat overlooked until recently because of inadequate reference material. Bob Vlack's book, photo-plates, and rarity guide has helped to change this. Most of the varieties of imitation British halfpence struck in America as attributed by Bob are thought to have been produced at Machin's Mills. They are as follows using Vlack's attribution scheme:

<u>Date</u>	<u>Variety</u>	<u>Comments</u>	<u>Date</u>	<u>Variety</u>	<u>Comments</u>
1747	1-47A	George II	1787	9-87NY	Indian
				13-87CT	Miller 101-G.2
1771	2-71A			17-87A	
	3-71B			17-87B	
	4-71C			18-87C	
				19-87C	
1772	5-72A			20-87C	
	6-72A			VT-87C	Ryder 13
	7-72B			21-II-87C	
	24-72C			23-87C	
				21-II-87D-II	
1774	3-74A			21-I-87D-I	
	7-74A			17-87E	
	8-74A				
			1788	13-88CT	Miller 101-D
1775	4-75A			22-88VT	Ryder 31
				23-88A	
1776	6-76A				
	9-76B				
1778	11-78A				
	12-78B				
	13-78B				
1785	15-85NY	Immune Columbia			

Connecticut Coppers

It is probable that Connecticut Coppers were struck at Machin's Mills from sometime in 1788 up until the copper price collapse in July 1789.

James Atlee engraved some of the dies that were used while dies obtained from Jarvis and Company and Benjamin Buell were also used. Walter Breen's excellent article entitled *Legal and Illegal Connecticut Mints* identifies which varieties of Connecticut Coppers he believes were struck at Machin's Mills. He breaks the varieties into three divisions according to the method employed to link them as a product of Machin's Mills. Using Miller's attribution method, they are:

(1) Punch linked to later Vermont issues

<u>1787</u>	<u>1788</u>
1.1-A	1-I (Bressett 25-U)
1.1-VV	2-D
1.4-WW	3-B.1
3-G.1	3-B.2
52-G.1	5-B.2
52-G.2	4.1-K
	4.1-B.1

(2) Muled dies of different sources

<u>1787</u>	<u>1788</u>
13-D	6-H
32.4-F	4.2-R
50-F	9-E
37.6-B	13-A.1
37.8-LL	
37.12-LL	

(3) Die-break linked

<u>1787</u>	<u>1788</u>	<u>1788</u>
32.4-X.5 *	7-E	12.2-C
32.4-Z.3 *	7-F.2	12.2-E
32.4-Z.20 *	7-K	16.1-D
32.9-X.7 *	8-K	16.1-H
	10-C	16.4-A.2*
	11-G	16.4-L.2*
	12.1-E	16.5-H
	12.1-F.1	16.6-H

* These may also be products of Machin's Mills. Known specimens are not well enough preserved to make a decision based upon die-break evidence.

Vermont Coppers

James Atlee began to engrave Vermont dies to be used exclusively at Machin's Mills probably near the end of their production of imitation British halfpence. These dies can be recognized by the use of stars in the legends. Later when the Rupert mint closed in early 1789 their remaining dies were taken to Machin's Mills and used there. The final coinage of Vermont coppers was made from rejected, worn, and muled dies during the copper price collapse in mid-1789. Many of the Vermont coppers made at Machin's Mills were struck over Irish halfpence.

Kenneth Bressett's excellent article entitled Vermont Copper Coinage lists the Vermont varieties that were made at Machin's Mills in the order that they were struck. Using Bressett's attribution scheme, and also referencing the older Ryder-Richardson designations, they are:

DATE	VARIETY	COMMENTS
1787	17-V	RR 13 (Britannia)
1788	18-W	RR 27
1788	19-X	RR 18
1788	20-X	RR 35
1788	21-Y	RR 33
1788	21-U	RR 28
1788	22-U	RR 29
1788	16-U	RR 25
1788	16-S	RR 24
1788	23-S	RR 30 (Backward C)
1788	24-U	RR 31 (Georgivs III)
1788	25-U	Miller 1-I
1785	26-Z	RR 1 (Immune Columbia)



Vermont Ryder-1 IMMUNE COLUMBIA

New Jersey Coppers

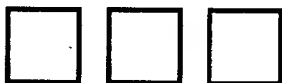
In a book published in 1891 entitled Newburgh: Her Institutions, Industries, and Leading Citizens there is a brief account of Thomas Machin's coining operation. In this article it is stated that the first coin bearing the motto E Pluribus Unum was made at Machin's mint (Appendix II). This statement undoubtedly refers to New Jersey coppers since that motto was first used on these coins.

Walter Breen states that the group of New Jersey coppers known as Camel Heads was made from dies which were lettered with Jarvis and Company punches. As has already been noted, these punches were obtained by Machin's Mills when the Jarvis operation closed.

The New Jersey coppers were probably some of the last coins struck at Machin's Mills. During the copper price collapse in 1789, New Jersey coppers held their value much better than other coppers then in circulation. For example, in New York State, New Jersey coppers passed at twice the value of other coppers and in New Jersey they passed at a still higher value. Thus during this period it would have been only logical to produce New Jersey coppers. This is evidenced by the fact that one of the varieties (56-n) is found struck over many different types of coppers in order to take advantage of the value differential.

Walter Breen has attributed the following New Jersey copper varieties as being struck at Machin's Mills. Using the Maris attribution system, they are:

DATE	VARIETY	COMMENTS
1787	56-n	Camel Head
1787	57-n	Camel Head
1787	58-n	Camel Head
1787	69-w	Very Rare



APPENDIX I

Excerpts from Ruttenber, E.M.; 1875

The coinage mill was from forty to fifty rods below the pond, on a canal dug for the purpose. The building was of wood, thirty by forty feet, and two stories high. The metal used was copper, obtained by melting up cannon and leaving out the zinc in the alloy. The copper was then run into moulds, and rolled into flat sheets the thickness of the coin and from one to two feet wide. It was then punched with a screw, moved by a lever, so adjusted that half a revolution would press out a disk of the size of the coin. The blanks were then put into a cylinder and revolved with sand, saw-dust, and water. They were generally left revolving through the night; and the coiners circulated the story that the devil came by night to work for them. They also sometimes worked in masks to create a terror in the neighborhood. One night in the cylinder would wear the edges of the blanks smooth. The coining press was a screw, with an iron bar about ten feet long through the top. On each end of this bar was a leaden weight of perhaps five hundred pounds. The threads of the screw were large and square and worked through an iron frame. Ropes were attached to each end of the bar, and it was swung about half way around by two men pulling upon the ropes; two other men pulled the lever back, and a fifth laid on the blank with his fingers. The last operative named sat in a pit so that the lever would not touch his head. The coinage was about sixty per minute. A little silver was coined, but mostly copper, and the work was continued four or five years. Atlee, the engraver wore a horrid mask, and frightened some boys who came to fish so that they never ventured near the mill again. The machinery was removed to New York, and the building was afterwards used as a grist mill. Machin abandoned the enterprise probably about 1790, on the adoption of the Federal constitution.

APPENDIX II

Excerpts from Newburgh; Her Institutions, Industries, and Leading Citizens. 1891

The historical fact connected with Orange Lake is that shortly after the war there was a coinage mill or mint here, built on the outlet. It was erected by Captain Machin, first for a grist mill. In 1787 he formed a partnership with several New York men for the purpose of coining money, and the firm was afterward incorporated with a similar company chartered by the State of Vermont. Copper was coined into money, Vermont money solely. The building was of wood 30 x 40 feet and two stories high. The copper was obtained melting cannon, leaving the zinc in the alloy. A little silver was coined also. The workmen sometimes wore masks to create a terror in the neighborhood. It is also said that the first coin bearing the motto E Pluribus Unum was made at this mill. The enterprise was abandoned in 1790 on the adoption of the Constitution.

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